Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

LIBRARY RECEIVED FEB 1906 U.S. Department of Agriculture.

Vol. XII. FEBRUARY, 1906. No. 5.

THE AGRICULTURAL STUDENT

IF IT'S A

DE LAVAL

that's all you need to know about a

CREAM SEPARATOR

Send for Catalogue and Name of nearest Local Agent

THE DE LAVAL SEPARATOR CO.

Randolph and Canal Streets, CHICAGO. 74 Cortlandt Street, NEW YORK.

5¢ PER COPY

-A-
MONTHLY MAGAZINE
DEVOTED TO
AGRICULTURAL
EDUCATION

50¢ PER YEAR

THICK CREAM

Sells for One Cent More Per Pound Than THIN Cream.

The creameries of the country have become so convinced of the increased value of thick cream over thin that many of them are paying one cent per pound more for cream testing 30 per cent. and over than for that testing under 30 per eent.

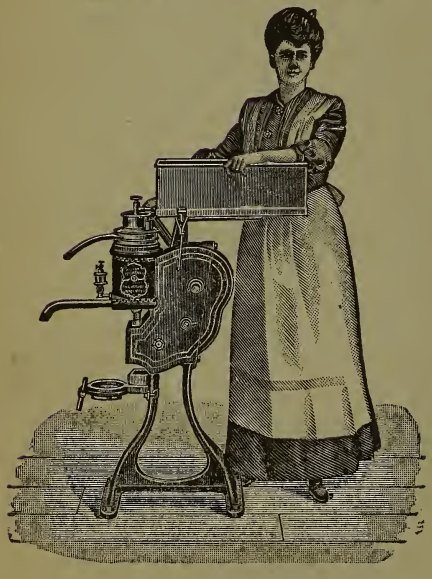
The reasons for this are:

First—Thick cream makes better butter because it contains less milk and therefore keeps in better condition.

Second—Thick cream is so much less in quantity that the cost of transportation is less.

It is much better for the dairyman to make thick cream because he has more skimmed milk left at home to feed calves. It then follows that dairymen should buy only such separators as can separate thick cream.

U. S. CREAM SEPARATORS



lead the world in this particular.

Beware of the cheap and poorly constructed separators that cannot make thick cream. They would be expensive if furnished without cost.

Vermont Farm Machine Co.

BELLOWS FALLS, VT.

18 centrally located distributing warehouses throughout the United States and Canada

Eclipse Hocking Coal

PRODUCED BY

Johnson Coal Mining Co.

General Office: Spahr Building

Yard Office: 400 West Broad St.

COLUMBUS, OHIO

Telephones—Bell, Main 215 Citizens 6439

Also Dealers in

Anthracite, Smithing, Coke, &c.

FRANK C. KELTON. WADE CONVERSE

Kelton & Converse,

Dealers in

Lumber, Lath, Shingles,

Doors, Sash, Blinds,
Door and Window Frames,
Mouldings, Etc.

Cor. Spring and Water Sts. COLUMBUS, O.

Telephone No. 279.

BLACKWOOD, GREEN & CO.

HARDWARE

STOVES AND HOUSE FURNISHING GOODS.

SLATE and METAL ROOFING

624 North High Street,
Columbus, Ohio.

BRADSHAW, THE STUDENTS DRUGGIST

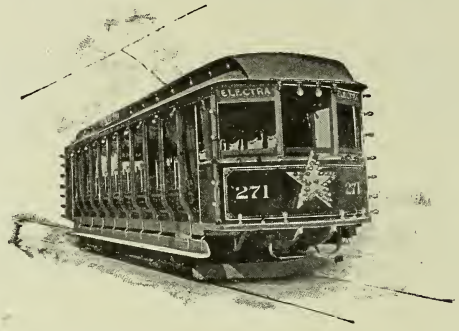
KING AVENUE, NEAR NEIL

When writing to Advertisers, mention THE STUDENT.

THE COLUMBUS RAILWAY AND LIGHT CO.

The Car Service Cannot be excelled by any Street Railway in a city of like population. All lines center in the heart of the city and extend in all directions to the suburbs. The lowest rates of fare of any city in the United States. Trolley parties specially cared for by chartered cars.

OHIO STATE UNIVERSITY IS REACHED DIRECT BY EITHER HIGH STREET OR NEIL AVENUE LINES



THE LOWEST FARE IN THE COUNTRY. TRANSFERS TO ANY PART OF THE CITY

Every State Institution, Hospital, Cemetery, City Park, Hotel, Depot, Principal Business House, and all the various points of interest to be desired are reached or passed by cars of this Company. Operates and controls the lines to Westerville and Arlington. The latter are delightful suburban rides.

Smith's
Academies of Dancing
Oldest, Largest, Best.

Special Students Classes on
Friday and Saturday Evenings.

Main Office: High and Gay Sts. Both Phones.

Prof. W. J. Rader's

ART ACADEMY OF DANCING

199½ SOUTH HIGH STREET

BOTH PHONES

Will organize another beginners' class Friday evening, February 9th, 7:30 o'clock. First lesson.

Open nights, Thursday and Saturday evenings, for the advance.

NEIL AVENUE ACADEMY, 647 Neil Avenue

BOTH PHONES

Open night, Saturday evening, for the advance.

OAK STREET ACADEMY, 827 Oak Street

PHONES—CIT. 4431. BELL 6189.

Academies can be secured for fraternity hops, club dances, etc.

OHIO STATE UNIVERSITY COLUMBUS, OHIO

Six Colleges:

AGRICULTURE AND DOMESTIC SCIENCE
Homer C. Price, M. S., Dean

ARTS, PHILOSOPHY AND SCIENCE
Joseph V. Denney, A. B., Dean

ENGINEERING
Edward Orton, Jr., E. M., Dean

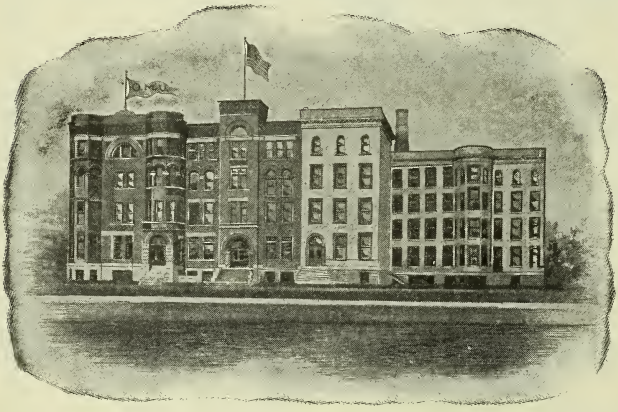
LAW
Joseph H. Outhwaite

PHARMACY
George B. Kauffman, B. Sc., Dean

VETERINARY MEDICINE
David S. White, D. V. M., Dean

WILLIAM OXLEY THOMPSON, LL. D., D. D., President.

Ohio Medical University.



Colleges of MEDICINE, DENTISTRY and PHARMACY.

Four years' graded course in Medicine, three in Dentistry and two in Pharmacy. Annual sessions thirty-four weeks.

All Instruction except Clinical, by the Recitation Plan.

Students are graded on their daily recitations, term and final examinations. Large class rooms designed for the recitation system. Laboratories are large, well lighted and equipped with practical, modern apparatus. Abundant clinical facilities in both Medical and Dental departments.

Sessions for 1905-1906, in all Colleges, begins Tuesday, September 12th, 1905.

For catalogue and other information address:

GEO. M. WATERS, M. D., Dean, College of Medicine.
L. P. BETHEL, D. D. S., Dean, College of Dentistry.
GEO. H. MATSON, G. PH., Dean, College of Pharmacy.

Ohio Medical University

700-714 N. PARK ST., COLUMBUS, - OHIO.

Red Poll Bull, Demon. Owned by Ohio State University.

THE AGRICULTURAL STUDENT.

VOL. XII. OHIO STATE UNIVERSITY, COLUMBUS, FEBRUARY, 1906 No. 5

TERMS OF SUBSCRIPTION:

One Year	$0.50
One-half Year	.30
Single Copies	.05

While this magazine is published with the approval of the President of the University and the Officers of the College of Agriculture and Domestic Science, the editors are responsible for the statements in all unsigned articles.

Address all communications to the Business Manager, Agricultural Student, Columbus, Ohio.

Entered at the Post-Office, Columbus, Ohio, as second-class matter.

PUBLISHED MONTHLY BY

THE AGRICULTURAL STUDENT PUBLISHING COMPANY.

CHAS. D. HYATT.....Editor
ALFRED VIVIAN.....Advisory Editor
VERNON H. DAVIS.....Business Manager

STAFF.

E. J. Kitchen
N. E. Shaw
F. D. Heckathorn
S. H. Shawhan
L. E. Call
H. C. Ramsower

CONTENTS

Editorial Comment 89
Agricultural Student Union of Ohio 91
Ohio Students in the Judging Contest 91
The Farmer 92
The State Board of Agriculture ... 93
Horse Trophy 94
Shorthorn Breeders' Meeting 94
State Farmers' Institue 95
The Ohio State Forestry Society 97
Dairying Part of an Agricultural Education 98
Home and School Gardens 98
The State Horticultural Society ... 101
Wheat Midge or "Red Weevil" ... 102
Hampshire Swine—(Thin Rinds) . 103
Prizes on Swine Won by the Ohio State University at the 1905 International Live Stock Exposition, Chicago, Illinois 104
The World's Official Butter-Fat Record Made With Public Supervision 105
Fatalities and Injuries During Season of 1905 106
New Professor of Agronomy 106
University News 106
Pure Bred Shorthorn Steer 107
Agricultural News 107
Alumni Notes 108
United States Department of Agriculture 109

EDITORIAL COMMENT

Again we hear the agricultural colleges in general thoroughly upbraided. It is the same old cry of "useless theorizing" that we have heard all our lives., nothing new added, nothing omitted, but the self-same arguments that were so popular years ago. When the agricultural colleges made their first stand they rather expected criticism, and they certainly got it; but like all other good things, this only helped them along and hurried their growth until at present such remarks as the above sound rather antiquated. We cheerfully admit that a part of the work, not all by any means, as we who have had a hand in that work can testify, does consist of theory, but what young son of the soil, after he has worked on his father's farm up till the time he is twenty, does not need a few new theories to go hand in hand with his more practical nature?

Secretary Taft's speech on The Canal, delivered at St. Louis, shows that sixty million dollars have already been expended by the United States, and this mostly in preparation. The great problem now is how to dispose of the earth

and rock excavated. It seems necessary to lay some half-thousand miles of railroad and purchase a great many engines and flat cars for this purpose. It waas further stated that thirty-two million feet of lumber have been purchased to build homes for the workmen and their families, numbering altogether about fifty thousand persons.

There are one hundred and thirty-five million dollars more available and it is thought that this sum is sufficient to pay for the lock system but is insufficient for the sea-level canal.

The *Youth's Companion* prints the following:

"One hundred and six persons in each thousand of the population of the country over ten years cannot write. The latest bulletin of the Census Bureau gives forty-six illiterates in a thousand of the native-born whites and a hundred and twenty-eight in a thousand of foreign-born. It is satisfying to note that illiteracy is decreasing steadily, especially among the native-born, for whom the statistics for 1890 show sixty-two illiterate in a thousand. Among children, illiteracy is greater in the country than in the cities, owing to lack of school facilities in thinly populated regions. In cities of more than twenty-five thousand there are only ten illiterate children per thousand."

The above statements are facts and cannot be gotten around, yet we have men today who declare that, through the immigration of large numbers of ignorant people, and the large birth rate among the lower classes, the line of our civilization is gradually receding. Such would certainly be the case were it not for the increasing standard of living. In some countries it is pretty hard for an individual of the lower class to gain access to the upper, but in the United States, thanks to the idea of equality among men and our system of public free schools, men move from the lower to the upper classes by hundreds, the only barrier being their absolute refusal to become enlightened.

We as students of the Agricultural College of the Ohio State University, because of the location of that institution, are subject to a great many treats. We refer to the State Farmers' Institute, which was held in this city a short time ago; also the meeting of the State Boaard of Agriculture, and the Agricultural Student Union, together with various forestry meetings, live stock meetings, and so on. This we are thankful for.

We have dwelt at some length upon the above meetings in this number, but we think it quite appropriate to do so. Although not directly connected with this institution, they at the same time, are with us and we with them. We are all working together for the same end, and we must necessarily arrive at that end through the same general plan.

"He who would thrive must rise at five,"
  The old folks used to say.
And so of course, to thrive the more,
'Tis better still to rise at four,
  And make a longer day.

Still smarter he who wakes at three
  And hastens out of bed;
And he who would thhis man outdo
Must rise when the clocks are striking two
  To earn his daily bread.

To rise and run at stroke of one
  Advantages still may keep;
But he who would them all forestall
Must never go to bed at all,
  And die for lack of sleep.

—*James Clar nc Harv y.*

That "we couold see oursilves as ithers see us" is not entirely beyond the reach of all. A rising young editor of the East, who was somewhat absent-minded, on looking through the columns of a rival

paper, saw quoted an editorial which he himself had written. He immediately wrote across the top, "Wretched attempt at wit."

Agricultural Student Union of Ohio

The above organization met on January 12 in Townshend Hall, and was called to order by the President, J. F. Cunningham, M. S. A., '00, editor The Ohio Farmer. After a short address by Mr. Cunningham, the subject of "An Important Phase of Extension Work" was discussed by L. H. Goddard, Experimentalist at Wooster, Ohio. This discussion was to have beeen given by M. O. Bugby, B. Sc. (Agr.) '04, and Assistant Experimentalist, but owing to sickness, he could not be present. Following, the subject of "Alfalfa Growing in Ohio" was ably presented by Willis Wing, of Mechanicsburg, Ohio.

After the appointment of committees by the chair, the meeting adjourned to Townshend reading room, where luncheon was served. Some sixty-four tickets were sold. The after-dinner speakers were: President Thompson, on "Practical Education for the Farmer;" J. S. Hine, B. Sc. (H. and F.), '93, "Early History of the Agricultural Student Union; how it was formed, etc.;" Supt. Barnes, Osborn High School, "Teaching of Agriculture to Younger Students," and Willis Wing, "The Bright Side of the Farmer's Life."

The first number of the afternoon session, that of "Rural Extension, was taken up by Supt. A. B. Graham, of the University. After the discussion which followed, Supt. D. H. Barnes occupied a short time on the subject, "Elementary Agriculture in the High Schools." The number, "Agriculture in the Elementary Grades, by Supt. Will C. Merritt, Dublin, Ohio, with discussions, ended the program.

The report of the committee on nominations was as follows: For president, E. J. Riggs M. Sc. '97; vice-president, T. W. Ditto, B. Sc. (Agr.) '03; and secretary-treasurer, H. C. Price, M. S. A. '99.

Ohio Students in the Judging Contest

Six students from the Ohio State University participated in the Intercollegiate Live Stock Judging Contest at Chicago on December 16, 1905. Besides Ohio, teams from Iowa, Kansas, Texas, Missouri, Michigan and Ontario Colleges also took part.

Horse Judging—1, Joseph E. Main; 2 E. D. Waid; 3, M. E. Laird, 4, R. C. Wallace; 5, G. T. Snyder.

Cattle, Sheep and Swine Judging—1, Joseph A. Main; 2, J. H. Cox; 3, M. E. Laird; 4, R. C. Wallace; 5, G. T. Snyder.

The $60 priz e money offered by McLaughlin Bros., of Columbus, to the three students making the best record in judging horses, was won by the following:

Joseph A. Main,	273.00 points...	$25 00
E. D. Waid,	241.66 points...	20 00
M. E. Laird,	238.00 points...	15 00

Among the thirty-five contestants from the different colleges, Mr. Main stood an easy first by 21.87 points over a Texas student, while Mr. Waid ranked fourth and Mr. Laird fifth. The Ohio team won the horse trophy, which the Iowa Agricultural College won in 1904. Ohio scored 1120.33 points, with the Ontario Agricultural College second with 1042.15 points, with Texas, Iowa, Kansas and Michigan following in the order given.

The $60 prize money given by Messrs. Thomas Johnson and Denton Bros., of

Columbus, to the three students doing the best work in judging cattle, sheep and swin, was won as follows:

R. C. E. Wallace, 631 points.....$25 00
G. T. Snyder, 597 points.... 17 50
M. E. Laird, 597 points.... 17 50

Mr. Wallace ranked fifth among the thirty-five students judging in this group. While Ohio State University ranked first among the colleges in judging both horses and cattle, she dropped to third rank on swine and fourth on sheep, Texas excelling on swine and Ontario on sheep. In total points scored on judging cattle, sheep and swine, Ontario led with 3,111.15 points, Iowa second with 3,016.98, and Ohio with 2,948.33 points. This takes the bronze trophy won by Ohio in 1904 to the Ontario Agricultural College at Guelph.

A statement of the total points won by those colleges competing during the past three years is as follows:

Year.	Ohio.	Iowa.	Kansas.
1903	351.25	375.25	325.00
1904	2201.00	2161.00	1914.00
1905	4068.33	3957.64	3765.76
Total ..	6620.58	6493.89	6004.76
Average .	2206.86	2164.63	2001.58

The Ontario College competed in 1904 and 1905, but not in 1903. The record of Ontario, however, for these two years is of the highest character. Ohio has steadily held her own, and with the contemplated new equipment for the Department of Animal Husbandry, the students should render good accounts of themselves.

At the annual meeting of the Ohio Wool Growers' and Sheep Breeders' Association, Profressor Plumb was re-elected president; and W. F. Watt elected secretary.

The Farmer

L. E. CALL.

What are the qualities that, balanced together in a man, make a good farmer? Very few people have given this a thought. It has been in the past a common opinion that the person unfitteed for any other calling could farm, and certainly he can, but the large number of run-down, mortgaged, unattractive places throughout the country testify to the fact that he cannot farm successfully. But perhaps nature has been against this man, someone will say; perhaps his land was unproductive his roads bad, and his markets poor. Granted all this, how are we going to account for the fact that his neighbor on the adjoining farm, with the same soil, the same roads, and the same market conditions, is every year making his farm more productive, beautifying his place, educating his children, and in all ways being successful? Oh, no! It's not nature nor it's not luck, it's the man himself. There must be there certain characteristics necessary in the man who is to make a successful farmer. What are these characteristics?

Our economics says these are the qualities that largely determine an individual's capacity as a producer, namely:— Health, physical strength and endurance, intelligence, judgment, ambition, energy, perseverance, imagination, mechanical ingeneuity and technical knowledge. The farmer being in every sense a producer, these qualities must apply to him. Farming is in no small sense manual labor; the importance of health and physical strength is at once apparent, although their importance is decreasing as labor-saving machinery is being more generally introduced.

Intelligence and judgment, the two indispensable factors united, known as common sense, the rarest of all bless-

ings. Common sense in the farmer is as necessary to his ultimate success as the seed he sows on his field is necessary for the reaping of a harvest; it guides him in the determination and settlement of all those little points that are constantly coming up on every farm—new conditions that he has to meet, new battles with nature that he has to fight.

Ambition, energy and perseverance are qualities that are the most marked in our most successful farmers, because they are the qualities that upon short acquaintance are the most easily seen. Important adjuncts to every man's character, and absolutely necessary for the greatest degree of success.

Imagination is the spur that pricks on his ambition. It pictures in his mind the object for which he is striving, the ideal steer, the ideal crop of corn, or the ideal farm. It may be that his image will never materialize, but he gets a new incentive to push onward and upward, and he will come more nearly reaching the ideal than if he had never had the vision.

Mechanical ingenuity, while not an absolute necessity, is a mighty convenient attribute. It saves the farmer many a trip to the blacksmith shop, some bushels of grain when the binder breaks down in the harvest field and dollars when the pumps break or pipes freeze. It entertains his youngsters with some new playingthing during the long winter evenings, and if rightly applied pleases his wife with a new butter worker or clothes frame.

In former years it has been these foregoing qualities that have been given the ascendancy in determining a man's ability. Little was thought of the tecehnical side of the question, and it has only been written the last twenty-five years that a farmer ever attempted to obtain more information along his line of work than could be learned from his father or neighbor. While I would not underestimate the value of the young farmer moy's lessons learned at his father's feet, yet if he is going to attain the highest success he must have a broader knowledge than this; he must learn the ins and outs of the technical side of his calling. He must not only know that if he properly plants a piece of corn that he will reap a harvest, but he should know why he will, what the factors are that cause the plant to grow, what it feeds upon, and how it takes its food. Knowing this, he will have solved to a great extent the problems in depth of plowing, kinds of fertilizers to use and how to cultivate.

The technical side of agriculture is yet in its youth, and as a youth is in a rapidly growing state. Thus the farmer that is to be up with the times must not merely have been a student, but he must be a student. He must constantly be on the alert, he must be a studious reader of the best agricultural papers. the publications of the experiment station and the Department of Agriculture, and above all, should act as an agent through which the ideas learned are put into practice.

These are a few of the many things that are essential in the character of the man that is to be ultimately most successful as a farmer. There are many others.

The State Board of Agriculture

The next day, after the State Farmers' Institute, January 11, the State Board of Agriculture met in the Board of Trade Auditorium. William Miller, of Gypsum, was president. Governor Pattison was to have addressed the farmers, but owing to illness he was unable to appear; but his secretary, Mr. Houck, responded in a very pleasing manner.

Prize Won by O. S. U. Judging Team.

Horse Trophy

The horse trophy won by the judging team at the International is of fine bronze. This represents an Arabian shiek kneeling by his fine Arabian horse and looking up into the face of the beast with love and admiration. The figure of the horse is of true Arabian type, and valued at $700. This was presented by the Union Stock Yards Company, Chicago, Ill. It was won last year by Iowa. Any college winning it three years in succession will become the proud owner of this highly valued trophy.

Shorthorn Breeders' Meeting

The annual meeting of the Ohio Shorthorn Breeders' Association was held in the Neil House parlors on the evening of January 11th. The speakers of the evening were Hon. W. A. Harris, late United States Senator from Kansas; Professor Plumb; and Colonel Eurton, from Clinton county, Ohio.

The privilege of hearing such an important breeder and importer as Mr. Harris was a rare treat. He spoke encouragingly to the breeders of Ohio, and thought the future looked bright and prosperous for the Shorthorn cattle. He advised the young breeders not to be misled by any new fad, but to follow out the line once begun and improve as far as possible. Professor Plumb discussed the subject, "Should stock owned by an Agricultural College be allowed to compete for prizes against the breeders' stock?" In a large show like the International he thought it perfectly right that they should, while in state and county fairs he thought they should be permitted to exhibit, but not in competition for prizes unless a special class for agricultural colleges be provided for. The very same question of whether the college stock should compete against the others at the Inteernational has caused much comment among the board of control of that show. Consequently much interest was manifested in this meeting. A vote was taken, in which over one-half favored Professor Plumb's argument, the remainder being against it.

Colonel Eurton gave a very interesting and pointed talk on the preparation and selling of live stock at public sales. The officers of the ensuing year were elected as follows: Reid Carpenter, president; C. B. Stewart, B. Sc. (Agr.) '00, secretary.

State Farmers' Institute

January 9-10.

MORNING SESSION.

The meeting was called to order by the president, Lowell Roudebush, of New Richmond, Ohio, and after a short address by him, and music by the Williamson Sisters Quartet, the first number on the program was called.

"Ohio Horticulture," by F. H. Ballou, Assistant Horticulturist, Ohio Experiment Station.

"Going Into the Chicken Business," by Homer W. Jackson, in which he said, in part: The business may be divided into three parts, (1) fancy, (2) farm, and (3) commercial. The equipment and labor are two very important items. One man should be able to take care of 600 hens, especially where the colony plan is used. A warm house is considered unnecessary, but hens must be kept shielded from storm, rain, wind and dampness. The money crop is the eggs, the broilers coming in as a side line. The cost of feeding the average hen is from seventy-five cents to one dollar and a quarter per year, and each hen should lay from eight to ten dozen eggs per year. Avoid all fads, high-priced feeds, incubators, and so on.

"How to Make the Potato Crop Pay," by J. F. Keller, Newark, Ohio. A well-drained clay loam is considered best for potato growing. Alluvial soil is also good. The production per acre will be in proportion to the amount of available plant food in the soil. Select a three year rotation, for the scab germ lasts but two years. We use a fertilizer 16% of which is P_2O_5, and 10% actual potash. This we have applied as high as 1,500 pounds per acre, but usually use 500 to 800 pounds, and never drill more than 500 pounds directly into the row. The Green Mountain variety seems to be the best with us. Select your seed potatoes in the fall and keep over winter at a temperature of 38°, as this will retard sprouting in the spring. Plow seven to ten inches deep and cultivate once per week. Do not roll. Plant as soon as possible after April 15, in rows three feet apart. Spray one to five times with a mixture of 1½ pounds Paris green and 50 gallons of water. For five years the cost per acre of growing the potato has been $45 to $50 with us.

Summary:

(1) Good seed.
(2) Clay loam well drained and of good fertility.
(3) Break land early and deep, but do not pack.
(4) Store crop in cool, dark place.
(5 Do everything on time.
(6) Square dealing.

AFTERNOON SESSION.

"Alfalfa Growing in Ohio," by Willis Wing. One load of alfalfa is worth more than two loads of clover hay. We exchange alfalfa for corn pound for pound. Alfalfa will not do well where the sour dock or sorrel thrives, as lime is lacking in that soil. Directions for growing: Spread coating of manure over ground, then plow the ground early and prepare a good seed bed. Sow one bushel of barley with fifteen pounds of alfalfa seed, the latter falling down in front of the drill hoes. Of course the land must be thoroughly drained, and if too acid, that is, sour dock and sorrel present, add 1,000 to 2,000 pounds of lime per acre. In buying seed, get that of a bright yellow color, and be sure there are no weed seeds present.

"Breeding Animals on the Farm," by Professor Thomas Shaw, St. Paul, Minn. Like does not always produce like, but this law is nevertheless stronger than the law of variation. Man's grade sire is his own worst enemy. To know that a sire is prepotent, first he must be purely bred for a few generations, be like his ancestors or better, but never breed to a sire that shows a degeneracy. Four genrations of all good performers is much to be preferred to one of twenty pure bred generations with a few bad performers. Never sell a grade female and invest in a high-priced one, but begin by breeding said grade female to best sire available, and continue to breed in the same line, and in four or five generations you will have practically pure bred stock. Get a prepotent sire, use sense in crossing, feed him properly, and your success lies in the grasp of your hand.

"The Outlook for the American Farm Home," by Mrs. George E. Scott.

"Stable Sanitation and Its Relation to Animal Husbandry," by H. E. Cook, Deenmark, N. Y. This may be looked at from three points of view. (1) Care of the animals; (2) quality of milk; (3) A business proposition. Time has passed when milk can be produced in any way and be acceptable in the market. No food is so subject to disease germs; and there is no surer death to such germs than just pure air and cleanliness. For this purpose, use concrete floors and mangers; use as little wood as possible. The idea is to do away with all dampness. Use two thicknesses in your walls; in building your concrete floors lay in successive layers two or three sheets of tarred paper, the last sheet within one inch of surface. This will prevent the moisture from coming up from below. Use wooden ventilators, with tight walls and the tops extending above the highest point of the roof. Instead of using two or three large flues, use several smaller ones; and they should be built up along the wall and from their follow the rafters, but the rafters not made a part of the flue. Provide valves in the flues. Whitewash walls with a mixture of three pounds lime, one pound salt and one-half pound Portland cement. Apply this mixture when hot.

MORNING SESSION.

January 10.

"Sheep and Their Environment," by Homer Southard, Marysville, Ohio.

There are many breeds of sheep to select from, and the breeder should study carefully the natural environment before making a selection. When chosen see to it that everything is done to make the animals comfortable; good roofs, good feed, clear water, lots free from mud, and above all things, watched closely. We do not recommend the washing of sheep, but they should be dipped twice a year to avoid external parasites. Our practice is to raise hot-house lambs, and for this purpose use a cross between the Delaine and Rambouillet. This insures a heavy lamb, and at the same time a good fleece from the dam. More farmers should keep sheep—a small flock could be kept on what would otherwise go to waste.

The next number on the program, "What Benefit Does Agriculture Derive from Forestry?" was not discussed, as the speaker, Dr. Adolph Lene, was absent.

"Ventilation and Construction of the Home for the Dairy Cow," by H. E. Cook.

The building for the dairy cow should be of such size that for each 1,000 pounds live weight there will be 400 to 500 cubic feet air space. All buildings should be made tight, so that with the King sys-

tem of ventilating the temperature may be regulated and kept pure.

(It is said that Mr. Cook gave a banquet to some of his city friends, and that said banquet was held in the former's cow stables. It is further stated that no irrelevant remarks were heard as to the environment. We wonder how many dairymen of Ohio would consider it advisable to try Mr. Cook's experiment. Not many, we're afraid; and yet the above speaker has demonstrated to us the fact that a stable may be kept free from bad odors and what necessarily follows, healthy cattle.—Ed.)

AFTERNOON SESSION.

This was taken up by reports of committees, election of officers, and so on. Professor Shaw spoke on "Feeding Farm Animals;" Professor Green, on "Farm Forestry."

Miscellaneous business, and the meetings were closed. The sessions were well attended, as the speakers were of national renown. The main feature during the whole institute was that there was nothing impractical about it. There were no theories advanced but that could be marked out in practice.

The Minnesota School of Agriculture has something new in the way of field day sport. This is in the nature of a plowing contest, in which students from the different classes compete, and valuable prizes are given to the winners. These prizes, which were in the form of merchandise, were valued from five to fifteen dollars. Unusual interest was manifested in the event, and competition was keen.

The Ohio State Forestry Society

The second annual meeting of the Ohio State Foresctry Society was held in Columbus, January 9 and 10. The first session at Townshend Hall was interesting and profitable.

The annual address by the President consisted of a brief historical statement of what Ohio had done for forestry, and a brief review of the work of the society.

The following papers were read: "The trees we might have and do not," by H. C. Rogers; "Practical forestry from actual experience," by William Hanna; and "Some reasons for saving, improving and replanting forests in Ohio," by Prof. Lazenby. These papers elicited a lively discussion, and many new and valuable ideas were brought out. The Department of Forestry of the University exhibited some beautifully finished specimens of native woods; the Experiment Station, some young trees and sections of threes of catalpa, locust and mulberry, showing the annual growth and size of trees at different ages; and the Warren County Fostery Association had an exhibit of boards from the native trees of that county.

Thursday evening a joint session of the Forestry Society and State Horticultural Society was held, the main feature of which was an address by Dr. Thompson. President Farnsworth, of the State Horticultural Society; W. J. Green, of the Experiment Station, and Horatio Markley, of the Morrow County Forestry Society, were also on the program.

The State Forestry Society has about one hundred members, and is growing in strength and influence.

Professor William R. Lazenby was re-elected president; Horatio Markley, vice president, and C. W. Waid, secretary.

Dairying Part of an Agricultural Education

E. D. HOLL.

Thus far but little has been written n the columns of the Student about any

phase of dairying, and there is certainly a cause for it.

Dairying is certainly a part of a complete argicultural education, or it would not be classed as a distinct department of the Agricultural Cololege. Then, if it is so important a part of the Agricultural College, there must be enough students interested in the subject to make such a department worth the support of the state. So it is very easy to conc'ude that this department, as well as any other in the college, should be heard from occasionally.

Truly it is a lamentable fact that so few of our longcourse agricultural students are taking advantage of this course in dairying instruction. For, almost without exception, every student who goes back to live on the farm will keep enough cows to supply him and his family with milk and butter, and in most cases he engages in the dairy business more extensively. And it is expected that an agricultural student who goes back on the farm will, at least to some degree, make a success of every line of farm work in which he engages; and if he engages in dairying, he is expected to make his herd yield some profit and be able to show some good type of dairy animal. And how do you know whether the business yields a profit or a loss if you are not able to tell what each individual cow is doing? Truly you may be satisfied in your own mind that your herd on the whole is making you some profit, but how do you know that you have not one or more thieves in the herd, which is stealing from you every day, and had better be fattened and sent to the slaughter pen?

It is a different proposition for a graduate or even an undergraduate student of a course in agriculture who goes back on the farm, from the farmer who keeps a few sheep, or a few hogs, or a few cows, to use up the waste products of the farm and perhaps afford him some few fresh farm foods. He wants to know what every department of the farm is doing for him and, if any department is not yielding at least some profit, he wants to know the reason why.

To say that Ohio does not afford good opportunities in dairying would be doing the State an injustice, for we have just as good land as can be found anywhere in Wisconsin, Minnesota, Iowa, or any other State; we have just as good feed, and are everywhere closer to the large markets, but we do lack trained men, and unless mort of the students in the long course in agriculture take advantage of the opportunities afforded them in this line of study and go back to the farm and preach the gospel of the cow, our good old state of Ohio will continue to remain a back number in the dairy business.

Home and School Gardens

WM. NIEFFER.

Eveery farmer should have, in fact many do have, a garden in which he should grow not only vegetables needed for the home table, but all the small fruit as well. The home garden probably pays better than any other land on the farm. In addition to this, the garden may be a bountiful source of quiet pleasure. A keener appreciation of such natural joys of the farm home and skill to develop them would do much to repress the craving for excitement which draws young men from country life.

The garden should always be within convenient distance of the farmhouse, for the garden is frequently under the care of the farmer's wife, and should be as near as possible to the kitchen, so as to

be in easy reach for gathering the vegetables and for fiften-minute opportunities for gardening. The spot selecteed should have a soil of mixed loam and clay. Every foot of soil in the garden should be made rich and mellow by using manure and by cultivation. The worst soils for the home garden are light, sandy soils or stiff, clayey soils; but any soil, by intelligent culture, can be made suitable.

In laying out the garden, we should bear in mind that hand labor is the most expensive kind of all. We should not lay out the garden spot in the form of a square, but should mark off for our purpose a long, narrow piece of land in the form of a rectangle, so that the cultivating tools may all be conveniently drawn by a horse. The use of the plow and horse cultivator enables the work of taking care of the garden to be done quickly, easily, and cheaply.

The size of the garden plot should depend upon the size of the family and their taste for vegetables; also upon what vegetables are to be grown as field crops. A quarter of an acre is considered sufficient for a garden for a family of four. If potatoes, cabbage, corn and melons are to be grown in it this estimate is hardly sufficient; but f these vegetables are put in the field, as they should be, usually less than half an acre will be enough, giving room for early potatoes and sweet corn.

Vegetables or fruit should be planted in rows, and not in little patches. Beginniing with one side of the gardden, you can plant two rows of corn for the table use, two rows each of cabbage, beets, radishes, onions, peas and beans; near them on the opposite side we can have rows of strawberries, raspberries and gooseberries. The garden when so arranged can be tilled in the spring and attended throughout the growing season with little labor and little loss of time. In return, the farmer's family will have a fresh supply of vegetables and small fruit in abundance.

When the size and place for the garden have been determined, attention should be given to the drainage, unless it is naturally very good. The purpose is to get rid of an excess of water, which, left alone, cuts off the supply of air from the roots of the vegetables and stops their growth. The work must be done thoroughly before planting; afterwards a failure is difficult to remedy. Surface drainage is frequently secured by use of beds raised above the level of the ground. But really effective drainage must be underground, and tile drains are usually most economical. Where tile cannot be had, stones or brush may be placed in the bottom of the ditch.

The keynote of successful gardening is to stir the soil with these four objects in view: First, to destroy weeds; second, to ventilate the soil; third, to enrich the soil by the action of the air; fourth, to retain the moisture by preventing its evaporation.

The ground is made ready for planting by plowing, harrowing, rolling and fertilizing. Spading may be done for a small garden or where special preparation is required for a limited space. The rake is usually employed in finishing off the beds. The soil should be broken up as deep as possible. The earth is left fine, loose and mellow far down, so the tender roots may grow through it freely. It then holds moisture and lies close to the roots, so as to supply them readily with food. The fall is the time for plowing in any hard or cloddy ground, especially in stiff clays. The clods are left exposed to the frost, which is nature's most effective agent in opening up soil and putting it in order for plant growth.

A stiff clay thrown on edge by the plow will break up during winter into a mass of fine-grained material, almost as open as sand and well adapted to growing vegetables. But if the breaking is left till spring, or if the ground broken in the fall has become compact during the winteer, the plow should be set deep, and harrowing and rolling continued until a fine, loose condition is secured. As a rule, two plowings are better than one. You should prepare the soil thoroughly before planting. Neglect of this will be felt all through the season.

Some people do not like to attend a garden because of its disagreeable work. The things that cause must labor are weds, insects and fungous diseases.

All these things render gardening unnaturally and unnecessarily difficult, each factor must do its part, and all must cooperate for the common good; and if properly tended gardening can be relieved of many of its most discouraging features.

At present the people as a rule do not know the names of insects and fungi that are doing the most harm in their gardens. And scarcely one in a hundred has any knowledge of the things that are doing the most good. Those who appreciate the point of view suggested will begin by giving to each child at the age of four or five years some little plot of ground that he can call his own. We can furnish him or let him earn tools of his own; can show him different gardens, and enecourage him to form his own plans. Then if the child chooses to raise something of real value to the household, we may pay him the market price for it, and encourage him to keep an account of his own. Year by year as the children grow in ability, the parents will gradually increase the size of their gardens, so they may plant some small fruit. This will yield the greatest amount of tducation to the children, and will gradually aid them to increase their desire for this line of work.

A well kept garden at home or at school can easily supply half the living of a family; the fresh vegetables are far superior to the stale products of many markets.

In Europe, there are 81,000 school gardens from Sweden to Switzerland. The form of school gardens should be guided largely by the things we hope to plant in them. Those who are charged with direct presentation of school garden work to children will recognize that the point of view for city children must be different from that for country children. As a rule, children in rural districts are familiar with the operations of the garden, preparation of the soil, planting the seed and the cultivation and harvesting of ordinary garden and farm crops. In rural communities, in addition to conducting vegetable or flower gardens, it might be well to secure different varieties of grains or grasses for test, encourage the students to undertake small experiments, different methods of tillage, etc.

In some localities it will be possible to bring together upon the school grounds groups of shrubs and trees arranged in an artistic manner, so that the finished work will present an attractive picture and will furnish material of great value for purposes of instruction. The habits and uses of various plants can be brought out, and the child led to appreciate the value of such decorative plantings in connection with the home. Such work, however, will not involve any loss of time or energy, neither will it require systematic attention to garden work on the part of the child. It will, however, have a broader influence, and will, per-

haps, be of greater importance in rural communities than would close attention to the maintenance of the individual garden.

Even where home gardens are all that could be wished or desired, the school garden can furnish preparation and fertilization, methods of planting seed, propagating fruit and forest trees by seeds, cuttings, buds, grafts, and layers.

Each of the children of the Emperor of Germany has a garden of his own in which he works and sees plants grow from his own sowings, and learns things that books and the best of instructors could never teach. Can we not do likewise?

(The above article was read before the Agricultural Student Union by a lad in his teens. This young man is a student in the High School of Osborn, Ohio, where agriculture is taught in conneection wth other school studies. Professor D. A. Barnes is instructor in this institution.—Ed.)

The State Horticultural Society

The thirty-ninth annual meeting of this society was held in Columbus January 10, 11 and 12, and was one of the most successful meetings ever held.

Among the more important features of the program may be mentioned the Presidential address by W. W. Farnsworth; the report on plant diseases, by A. D. Selby; fruit notes for the year, by W. J. Green; seed selection, by F. S. Sperry; hardy ornamentals for out-door planting, by J. H. Dayton; cover crops for the orchard, by N. E. Shaw; and a report of the biennial meeting of the American Pomological Society, by Prof. Lazenby. President Thompson, of the University, and Vice-President Cook, of the Michigan Horticultural Society, also contributed to the success of the meeting. Although no premiums were offered, the exhibits of fruits and ornamental plants was excellent.

Rural School Agricultural Club Work.
Exhibited at Student Union Meeting, January 12.

Wheat Midge or "Red Weevil"

BY H. A. GOSSARD, ENTOMOLOGIST, WOOSTER, OHIO.

Last year, in response to inquiries sent into all counties of the State, fifty-nine counties reported this insect present in noticeable numbers. On the station wheat plots it was found present in ten per cent. of the kernels of all varieties. It affected the smooth wheats to a greater degree than the bearded kinds, but no variety was immune. This year, reports from many sections of the State indicate that greater damage has been wrought than last season, and the same observation applies to the station fields.

The fly, which is a close relative of the Hessian fly, is a very small, delicate insect, appearing on the wing some time in June, about the date when the fireflies first appear and the blossoms of the locust trees are fading and falling to the ground.

The eggs are laid in a cavity or groove at the upper end of the outermost chaff, so that the young maggots, on hatching, can readily reach the incipient kernel. These reddish larvæ imbibe nourishment from the milky kernel, ceasing to feed after the grain becomes hard. When full grown they seek the earth, generally by crawling down the stalk when it is wet with dew or by sliding down in a raindrop. Going about one-half an inch beneath the surface, they make cocoons not larger than mustard seeds, very difficult to find, in which they remain until the following summer, when they again issue as flies. However, many of the larvæ have not left the heads by harvest time, and these are carried into the barn or stack; they soon become dry and shrink away from their skins, becoming "cased larvæ;" these do not feed; they again become active when thoroughly moistened, even after having lain quiescent for more than half a year. Since the chaff from the threshing machine contains countless numbers of these "cased larvæ," it should be promptly burned; the bulk of the straw can be put to its custotmary use without special danger. All seed wheat should be well fanned or screened to prevent sowing midge larvæ along with the seed. The screenings should be burned

The great majority of the flies are always derived from the pupæ buried in old wheat fields. Rotation of crops will be of some help in controlling them, many of the flies becoming lost and perishing while hunting new fields in which to lay their eggss. However, the only thorough remedy is to plow the stubble under in the fall to such a depth that the flies cannot make their way to the surface the next year. This should be done as soon after harvest as possible. Plowing to a depth of eight or nine inches is sufficient. Burning the stubble before plowing will help. Neighborhood cooperation in al these remedial measures is important.

Statistics showing the present occupation of Agricultural ex-students, as found in ex-Student Directory (1892-1905) of the catalogue of the College of Agriculture and Domestic Science for 1905-1906:

Farmers (including dairy and stock farmers, managers of farms and creameries, buttermakers, cheesemakers, and gardeners)	*433
Government employes	17
Newspaper workers	7
Agricultural teachers and experimenters	27
Practising veterinarians	6
Students in other colleges	30
Miscellaneous occupations	150
Unknown occupations	98
Dead	18
	786

* Of this number (433), 106 are strictly dairymen, i. e., buttermakers, cheesemakers, and managers of creameries.

Hampshire Swine—(Thin Rind)

J. L. EDMONDS.

Among the swine exhibits at the last International, none seemed to be more attractive to the large crowd of spectators than those of the Hampshires. At all times during the show their pens were surrounded by interested observers. And it might be added that, if prizes may be taken as criterions of merit, they must have looked pretty good to the judges.

The peculiar color markings of the breed would possibly be the most striking feature of the Hampshire to those not deeply grounded in the practical side of hog lore. The most fashionable color is a glossy black, with a sheet of pure white encircling the fore part of the body and including the fore limbs. This white belt varies in width from four inches to a foot. The color markings, while odd, are very pleasing to the eye, and a corload of such would, no doubt, attract attention in any market. The head is small and is marked by an absence of an excess of jowl. The ears are medium in size and well carried. The back, in most cases, is all that could be desired, being broad and uniform of width, with a slight arch. The exponents of the Thin-Rind breed especially emphasize the fact of freedom from weak or broken-down limbs. They possess well set legs, and stand well up on the feet. The hams are heavy.

In quality and stamina they are superior. They lack coarseness in either hair or bone. As rustlers they are said to be able to hold their own with any breed. The sows make good mothers, and are very prolific. Owing to the fact that they have ben less inbred and pampered than some of our more popular breeds, they are less likely to suffer from disease, constitutional and otherwise.

They are recorded as easily weighing 300 pounds at twelve months of age. Mature specimens have weieghed over 800 pounds. It might be said, however, that they do not as a general thing attain the weight of some of the large varieties.

Numerous successful reports have been given of their use in crossing with other breeds. Crossed with the Poland China, they make a very desirable animal.

Authentic history of the breed up until that within the last few years is very difficult to obtain. In the brief account of the breed published by John Goodwine, of Potomac, Ill.. the history of the breed is traced back about three-quarters of a century. We first know of them being imported into the Eastern States and going by the name of the McKay hog. Also a similar hog known as the Hampshire was brought into New York State from Canada as early as 1830. It is generally supposed that these hogs were the same. These early types, while popular for a time, gradually lost their identity owing to crossing. One of the early agricultural writers of the Eastern States says that it was a great pity to have allowed the hog to degenerate.

The first that we know of these hogs being brought west of the Alleghenies were those obtained for Major Garnet, of Kentucky. These hogs numbered about furteen or fifteen, and reached Kentucky in 1855. Major Garnet considered them much superior to the native hogs he had been raising. From this start in Kentucky they spread into the adjoining States. At present they are found most plentiful in the States of Kentucky and Illinois.

Trouble begins, however, when we seek to trace the ancestry of the Hampshire across the water. It is not definitely known whether our present day American Hampshire is a descendant of what is known in England as the Hampshire or of a sheeted hog known to exist in England at an early date, and possibly re-

ceived through Hampshire into this country. Several good authorities contend that the latter is the case, and it would seem to be very probable, from English description of their Hampshire hogs, they would not seem to have very much in common with the American Hampshire.

The county of Hampshire, England, has never been noted for the quality of its hogs, there being many diverse types found there. Neither were hogs found there in any large numbers. It is said these more nearly resemble the Sussex than any other English breed. In Mr. Snyder's book he classifies the Hampshire under county pigs of no particular merit. In opposition to this, however, is the opinion found in an early book, Dr. Dickson's System of Live Stock. He says: "The goodness of the Hampshire hog is proverbial, and there is seldom ever observed greater or quicker proof in any breed." Recent writers more nearly agree with Mr. Snyder's opinion. It is a matter of fact that we find no record of their winning any prizes at the Royal shows. Everything considered, it would probably be best an American product, and hence ought to have an American name.

To this breed have been applied many different names, such as "saddle-back, "McKay hog" (from the name of an early importer), "ring-middle hog," Thin-Rind and Hampshire. These two latter are the names by which it is known now, and although the record association has decided upon the name Hampshire, yet there are those who think Thin-Rind to be the better name. The term Hampshire would certainly tend to create confusion among Hampshire breeders. and is not nearly so descriptive of the hog itself as the name Thin-Rind would be. Among those who think the name should be changed are Prof. C. S. Plumb and Sanders Spencer, of England.

In conclusion, it might be well to cite a few of the recent show-yard triumphs of the breed. At the 1905 International the grand champion barrow was a Hampshire. The pen of Hampshire barrows put up a strong fight for the grand championship. In speaking of the exhibit of Hampshires, The Breeders' Gazette has the following to say: "The entries were well fitted and made a sterling display. A very even lot of shotes needing, perhaps, a little more flesh to make them suitably smooth. Long on quality, shy on bone, and full of edible meat. The packers are always anxious for barrows of this sort."

Prizes on Swine Won by the Ohio State University at the 1905 International Live Stock Exposition, Chicago, Ill.

First premium on pen Berkshire pure-bred barrows.

Championship on pen Berkshire barrows.

Second price in class on Berkshire barrow.

First and second prizes on Large Yorkshire barrows.

First prize on pen of three Large Yorkshire barrows.

Champion pen of Large Yorkshire barrows.

Second prize in class on cross-bred barrows.

First prize on pen of three cross-bred barrows.

Second and third prizes in Agricultural College and Experiment Station single entries on barrows.

Champion pen or five pigs in Agricultutral College and Experiment Station entries.

Grand champion pen of three barrows, over all breeds and crosses. This pen

consisted of three pure-bred Berkshire barrows, farrowed in the spring of 1905 and bred by the Ohio State Universityt.

The World's Official Butter-Fat Record Made With Public Supervision

YEKSA SUNBEAM 15439, ADVANCED REGISTER NO. CCV.

Year's Record—14,920.8 lbs. milk; 857.15 lbs. butter-fat, equivalent to 1,000 lbs. butter.

The Guernsey cow, Yeksa Sunbeam 15,439, owned by Mr. Fred Rietbrock, Athens, Wis., has completed the largest year's record of any cow in the world, made under public supervision, that of an Advanced Register and Agricultural Experiment Station. This record in detail is as follows:

Oct. '04,	1428.2	lbs.	milk;	5.69	%	butter	fat;	81.26	lbs.	butter	fat
Nov.	1322.5	"	"	5.62	%	"	"	74.32	"	"	"
Dec.,	1294.4	"	"	6.08	%	"	"	78.70	"	"	"
Jan. '05,	1217.0	"	"	6.04	%	"	"	73.51	"	"	"
Feb.,	1217.0	"	"	5.75	%	"	"	61.00	"	"	"
March,	1185.1	"	"	6.05	%	"	"	71.70	"	"	"
April,	1089.6	"	"	5.79	%	"	"	63.09	"	"	"
May,	1127.5	"	"	5.75	%	"	"	64.83	"	"	"
June,	1158.4	"	"	5.25	%	"	"	60.82	"	"	"
July,	1266.0	"	"	5.88	%	"	"	74.44	"	"	"
Aug.,	1463.8	"	"	5.42	%	"	"	79.34	"	"	"
Sept.,	1307.5	"	"	5.67	%	"	"	74.14	"	"	"
Total	14920.8	"	"	5.74	Av. %		"	857.15	"	"	"

This was made under the rules and regulations of The Advanced Registry of Guernsey Cattle and supervised by the Wisconsin Experiment Station. Adding one-sixth to the butter-fat to cover the weight of salt and water found in butter in addition to the butter-fat, we have 1000 lbs. of butter for the year's work of this cow. This is nearly three times the amount she was required to produce to enter the Register.

FEED OF YEKSA SUNBEAM DURING THE TEST.

October—Silage and hay 25 lbs., with grain mixture composed of 1 part oilmeal, 2 parts ground oats, 2 parts gluten feed and 4 parts bran.

November—Corn silage 30 lbs., with grain mixture the same as October.

December—Same as November.

January—Silage 30 lbs., rutabagas 10 lbs., 15 lbs. grain mixture composed of 1 part ground oats, 10 parts gluten feed, 2 parts bran, 1 part oilmeal, and alfalfa, hay, ad. lib.

February—Silage 30 lbs., rutabagas 10 lbs., 14 lbs. grain mixture composed of 4 parts white bran, 2 parts gluten feed, 1 part oilmeal, 1 part ground oats, 1 part corn meal and alfalfa, ad. lib.

March—Same as February.

April—Same as Februarl.

May—Same as February.

June—Pasture, mixed clover hay and 6 lbs. above grain mixture.

July—10 lbs. mixed grain ration composed of 300 lbs. bran, 1200 lbs. oats, 200 lbs. bluten feed and 100 lbs. oilmeal. Pasture ad. lib.

August—10 lbs. above grain mixture, 8 lbs. green clover at noon and pasture ad. lib.

September—Clover pasture, green corn, clover hay, and 2 lbs. gluten, 6 lbs. bran, 4 lbs. ground oats, 2 lbs. oilmeal.

Fatalities and Injuries During Season of 1905

In the past season twenty players lost their lives due directly to injuries received on the gridiron. Of this number, one was a girl, the first case on record of a girl dying from taking part in a game of football; twelve were high school boys, ranging from thirteen to seventeen years of age; four were professional, and only three were college men. The most conservative estimate of the number of college men playing the game would reach about 9,000, thus making the percentage of fatalities the very low figure of one-thirtieth of one per cent. This, while it does not prove that there is no brutality in the game, does show that, relatively speaking, the game is far less dangerous than the innocent sports indulged in by the very persons who raise such a hue and cry against football.—Purdue Exponent.

New Professor of Agronomy

At the last meeting of the Board of Trustees Professor James A. Foord, of the Delaware Agricultural College, Newark, Delaware, was appointed associate professor of agronomy. Professor Foord is a native of New Hampshire and graduated from the New Hampshire Agricultural College, and later spent three years as a student at Cornell University, taking both a bachelor degree and a master's degree in agriculture from that institution. For the past three years he has held the position of professor of agriculture in the Delawere Agricultural College, from which position he is now resigning to take up his work at Ohio State. Professor Foord will enter on his new position April 1st

University News

Twenty-one new men have enrolled in the dairy department. The total enrollment at present is 51, or nearly double the number of last year at this time, which was 27.

Professor Decker returned last week from New Jersey, where he attended the State Dairymen's Association, and where he appeared on the program.

On January 24, 25 and 26, the annual meeting of the Ohio Dairymen's Association will be heled in Townshend Hall, at which meeting Professors Decker, Guthrie and Freund will take part in the exercises.

Prof. W. H. Freund is a new man just come to O. S. U. He studied at Wisconsin, Guelph, and Kingston, and will teach cheese and butter making here at the University.

Professor McCall will attend the second annual meeting of the American Breeders' Association, held on the 17th, 18th and 19th of January at Lincoln, Neb.

Byron, the first prize pure-bred Junior Shorthorn steer calf at the International, was sired by White Hall Byron, a son of White Hall Sulton. This calf, now owned at the O. S. U., was regarded by many of the exhibitors at the International as the most promising Shorthorn steer calf in the ring.

Five grade Hereford steers have recently been purchased from D. W. Black, the famous Ohio feeder for use at the University. These include the choicest steer of Mr. Black's champion carload of yearlings at Chicago, two yearlings and two calves. One of these yearlings was a gift from Mr. Black to the University. All of these steers have been selected

with show character development in mind for the future. The steer selected from the carload lot is an extremely choice individual, and at the next International should win a high position.

The grand champion pen of three Berkshire barrows and champion pen of Yorkshire barrows, shown at the International, were brought back to the Ohio State University, where they will be used next term in class room work with sswine.

The Shorthorn steer, White Marengo, that won second prize in the junior yearling class at the International, was sold at public auction in Chicago to the United States Dressed Beef Company, of New York City, at seven cents per pound. The grade Hereford steer Ohio Nomination was sold at auction to Armour & Co. at five and one half cents per pound.

There is a new two hour elective in Animal Husbandry provided for the senior year. The first term involves the subject, "The Education of the Horse," including instruction in training, riding and driving. The second term will embrace the subject, "Meats and Products." The third term, "Harness and Vehicles," with history, construction and use of same.

Professor Vivian has been for the last few days in Wisconsin, where he was called to the funeral of his brother, a physician of Mineral Point, of that State. For this reason the professor was unable to be present at the Farmers' Institute to deliver his address on "Barnyard Manure; Its Care and Preservation."

At the last meeting of the Athletic Board, "O's" were granted to the following men: Tangeman, Brindle, Reemsnyder, Woodbury,Warren, Stolp, Kirby, McDonald, Lantry, Shory, Capt. Hoyer, Dunsford and Lincoln.

The schedule for the basketball team of 1906 is as follows:

January 6, Wittenburg, January 13, Cedarville College; January 20, Marietta; January 27, Wittenburg, at Springfield; February 3, Oberlin, at Oberlin, and either Wooster or Buctel; February 10, Kanyon; February 17, open; February 23, Wooster; March 3, Oberlin.

Already two of the games have been played, Wittenburg 16, Ohio State 37, and Cedarville 12, Ohio State 40.

Professors Price and Plumb gave a dinner to the stock-judging team at the Hotel Hartman on Friday evening, January 5. The guests other than the team were: President Thompson, Messrs. James and John McLaughlin, Thomas ohnson and Dr. Gay.

The Glee Club concert of Friday evening, January 12, was a decided success. The house was well filled, and the crowd appreciative. Assisting the Men's Glee Club were the Girls' Glee Club and the Mandolin Club.

Agricultural News

The State College of Washington has established a course in irrigation. The program for the coming year will cover the entire subject, including the building of reservoirs and ditches, the measurement and distribution of water, time to irrigate and best methods of application. This is a wise step, and Washington College is to be congratulated on so early taking up a work which is of prime importance to many Western areas.

Indiana has followed the example of other Western States in running a "corn

special." The trip occupied four days and was made over the lines of the Lake Erie and Western Railroad.

A government report estimates that the American farmer buys annually $1,000,000 worth of machinery and farm implements, and the total assessed value of this portion of his equipment is over $161,000,000. These are big figures, yet there is no reason to suppose that the figures are too high. These estimates show the importance of properly caring for these valuable assets.

Kenyon L. Butterfield, for the last three years president of Rhode Island College, has become president of the Massachusetts Agricultural College at Amherst.

Farmers' Bulletins 239 and 240 are very important bulletins, and can be had for the asking. The former treats of the "Inoculation of Legumes with the pure cultutres of nitrogen-fixing bacteria." The latter bulletin is on the Corrosion of Fence Wire, by Allerton S. Cushman, and furnishes valuable information in regard to galvanized wire.

The production of cotton for the whole world, for 1904, was 18,041,859 bales, with a consumption of 15,474,980 bales. This indicates a surplus in the world's factory supply of cotton amounting to 2,556,879 bales. Aside from this, there are large quantities which do not enter into these statistics, grown in China, Japan, Asiatic Russia, South and Central America, and other countries.

Alumni Notes

W. H. Mears, short course '01, is farming in Kansas. His address is Beloit, Kansas R. R. No. 2.

C. A. McClelland, B. Sc. (Agr.), '03, is located near Madisonville, Ohio, on R. R. No. 1, where he is farming.

J. V. Hyatt, B. Sc. (Agr.), '85, lately of the Johnson Stock Farm, and compelled by ill health to give up that position, is now in the employ of McGlaughlin Bros. His present address is 222 East Trade street, Charlotte, North Carolina.

J. Paul Long, short course '02, is now on the farm near Centerburg, Ohio, R. R. No. 1.

F. C. Ladrach, ex '06, whose present address is Brownhelm, Ohio, is a maker of Swiss cheese near that place.

E. V. Jotter, ex 04, is teaching school at Monroe, Ohio.

C. N. McClelland, B. Sc. (Agr.), O. S. U. '98, M. S. A. (Cornell), '02, is now located at West Raleigh, N. C., where he is assistant professor in Agriculture in the College of Agriculture of North Carolina.

C. W. McCulolugh, short course '07, is farming near Steubenville, Ohio, R. R. No. 1.

Emerson Poston, B. Sc. (Agr.), '05, has recently gone into the Angora goat business. He has imported from New Jersey quite a number of the best registered goats of that State.

E. E. Finney, B. Sc. (Agr.), '05, who has lateely been with George H. Smith, the Red Poll breeder, is now at home on a short visit. Mr. Finney stopped over at the University for a few days.

L. M. Allison, ex '07, is located near West Unity, Ohio, where he is farming.

O. C. Alleshouse, short course '04, is running a farm near New Bedford, Ohio.

C. A. Clawson, B. Sc. '99, D. V. M. (O. S. U.), '00. Address is Room 328,

L S. Exchange building, Kansas City, Kans. Mr. Clawson is Inspector, Bureau of Animal Industry.

B. L. Thompson, ex '06, is teaching school at Patalaska, Ohio. In the summer Mr. Thompson works with his father on the farm.

H. L. Belden, B. Sc. (Agr.), '02, is with the Bureau of Soils, Department of Agriculture, Washington D. C., where he is agent and expert in soils.

C. P. Alt is farming near Baltimore, Ohio.

M. O. Leyda, ex '98, is located near Pattersonville, Ohio, where he is running a large farm and, in conjunction with the farm, a creamery. He is owner of the farm and has a half interest in the creamery.

F. W. Liles, short course '99, whose present address is Collins, Ohio, is owner of a stock farm near that place. His specialty is the breeding of Poland China hogs, in which line he is quite successful.

L. A. Kolbe, short course '99, is assistant in soil management, Bureau of Soils, U. S. Department of Agriculture, Washington, D. C.

W. L. Keelly, ex '01 is running a farm and dairy near Newark, Ohio, R. R. No. 7.

C. C. Loomis, ex '05 whose address is Haskins, Ohio, R. R. No. 1, is farming near that place.

E. J. Logan short course '04 is engaged in farming at Mt. Gilead, Ohio, R. R. No. 2.

F. P. Long, short course '99, is running a farm near Kingston, Ohio.

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Animal Industry—Better Barns For Dairymen

Every year shows greater interest on the part of the general public in the production of clean milk. It is the local point of most dairy legislation and is the most essential item in dairy manufactures. City boards of health, dairy and food inspectors, and State dairy and food commissioners are active in the work of improvement of the sanitary conditions surrounding the production of milk. Reports from these various officers show that one of the greatest obstacles in the way of securing improvement is the barns in which the herds are kept. Too often these barns are found to be damp, dark, and poorly ventilated; the floors are a source of everlasting odors; the lack of sunlight promotes decomposition, and every particle of dust is loaded with germs which readily find their way into the milk. The foul odors present are absorbed by the milk before it can be removed from the premises. The cows are more susceptible to disease, and the place is entirely unfit for housing animals. There seems to be some excuse for this condition of things, as many, if not most, of these barns were built before the necessity of light and ventilation, good drainage, and sanitary arrangements for the interior were as well known as they are today. Most dairymen realize this fact, and would make improvements, which are not necessarily expensive, if they knew how to go about it.

The Dairy Division receives many inquiries regarding the construction of new dairy barns, as there seems to be a lack of available information on this matter that is reliable and practical. It is pro-

posed to make working plans and to give specifications for material and manner of construction, and to make the work especially applicable to the dairyman who can not afford an expensive structure and the services of an architect, and to place these in the hands of those who may desire them as soon as it can be done properly.

Many excellent barns have been built in different parts of the country; it is desirable to make a study of these, and, in order to do so without unnecessary expenditure of money for travel, the Dairy Division desires that those who have built barns having especially good features in general arrangement of floors or in details of stalls, handy devices, etc., would write to the Dairy Division of this Bureau of their success, giving details as much as possible. Some of the best barns will be visited with a view to securing more complete details than can be given in a letter.

It is also desired that those who contemplate building new dairy barns or inteend to rebuild their old barns with a view to making them modern and sanitary, will write to the Dairy Division and explain the details of size, cost, drainage, and slope of land, and exposure, purpose of barn, etc. It is not expected that the Division can furnish every applicant with a full set of drawings and specifications, but all such correspondence will be given careful attention and suggestions offered.

From this study of the needs of builders and from the successful work already done, it is expected to work out eventually a system of plans and specifications covering the general differences of climate, location, material, and cost that can be readily adapted to the needs of the greater number of dairymen.

Correspondence and suggestions bearing on this subject will be welcomed at the office of the Dairy Division, Washington, D. C.

Fine Ground Phosphate Rock

Contains more Phosphorus and Phosphoric Acid THAN GROUND BONE MEAL and cost 50 per cent. LESS. Prices, Pamphlets and Testimonials on application.

ROBIN JONES,
No. 14 Steger Building,
NASHVILLE, TENN.

Learn Telegraphy and R. R. Accounting

$50 to $100 per month salary assured our graduates under bond. You don't pay us until you have a position. Largest system of telegraph schools in America. Endorsed by all railway officials. **Operators always in demand.** Ladies also admitted. Write for catalogue.

MORSE SCHOOL OF TELEGRAPHY,
Cincinnati, O., Buffalo, N. Y., Atlanta, Ga.,
La Crosse, Wis., Texarkana, Tex., San Francisco, Cal.

W. & W. Sewing Machines are used in the Domestic Science Department of the Agricultural College of Ohio.

Clay, Robinson & Co.

Live Stock Commission

Chicago	South Omaha	Kansas City	So. St. Paul
Denver	So. St. Joseph	Sioux City	East Buffalo

The best of men and methods in each department at all houses.

YOU ARE INVITED TO VISIT

BAKER ART GALLERY

STATE AND HIGH STS.

For the FINEST Photos

The only Gold Medal awarded an American Photographer at the Paris Exposition

Special Rates to Students

America's Leading Horse Importers

At the 1905 International Live Stock Exposition Won the Greatest Victory of the Age.

ROSEMBERG—Gaand Champion Percheron Stallion.

APROPOS—Grand Champion French Coach Stallion.

18 First Prizes.

43 Prizes in all.

Champion Group of Percheron Stallions, over three years old.

Champion Group of Percheron Stallions, under three years old.

Champion Group of French Coach Stallions.

Champion Group of Belgian Stallions.

THE BEST HORSES IN THE WORLD

The First Prize Winners and Champion Stallions at all the leading shows of both Continents are now For Sale in the stables of

McLAUGHLIN BROS.

COLUMBUS, O. KANSAS CITY, MO. ST. PAUL, MINN.

If you saw it in THE STUDENT, tell the advertiser so.

THE PHOTOGRAPHS

MADE BY

INNIS & KIEFER

199-201 S. HIGH ST.

are the best that experience, skill and the knowledge of that which is artistic can produce.

The highest award over all Columbus and Central Ohio Photographers for four successive seasons is one of the many proofs of the exclusiveness and quality of our work.

A. H. HARMON,

HIGH-GRADE MERCHANT TAILORING

POPULAR PRICES

GREAT SOUTHERN BUILDING,

COLUMBUS, O.

CITIZENS PHONE 2958

BERNARD W. PAYNE MORTON McDONALD

Payne-McDonald Hardware Company

1204 North High Street

Telephone 2 on 366

COLUMBUS, OHIO

The Berlin Printing Company

PRINTING

OF EVERY DESCRIPTION

79-89 NORTH THIRD STREET

TELEPHONES

CITIZENS . . . 4157

BELL 227

10 Per Cent. Discount to Students

Stylish Clothes

Do you enjoy the luxuriousness of having you clothes made to order? If you do and appreciate High Grade Tailoring at reasonable prices, we're at your service. We're Tailoring experts and we bow to no superior talent in the Tailoring Business

HIGH STREET TAILORS

SMART TAILORS 166 North High Street

F. C. LONG, O. S. U. '03 A. W. KILER, O. S. U. '96

LONG & KILER'S

Original Bookstore of O. S. U. and managed by University Graduates

We are Extensive Dealers in

SECOND HAND BOOKS

which means a great saving to the student

LARGEST FOUNTAIN PEN DEALERS IN THE CITY

BEAUTIFUL LINE OF O. S. U. PINS

Removed from Main Building O. S. U. ELEVENTH AVE. AND HIGH ST.

---

228 to 230 North High Street

Popular Prices

Bucher Engraving Co.

COLUMBUS, OHIO

Make engravings of all kinds. A large corps of competent operators and artists enable us to make work just a little better than you are used to getting. We have some pretty samples you can have for the asking.

Bucher Engraving Co.

COLUMBUS, OHIO

80½ North High St.

Our Advertisers are Reliable. Patronize them.

A $35 CURRYCOMB

What would you think of a man who paid $35 for an overcoat and then cleaned it with a currycomb; yet, that is not a bit worse than trying to clean mangy lousy stock by using something that reduces the value of the animals.

There is only one preparation that has actually proved itself reliable and sure, and that is

Chloro-Naptholeum Dip

(A LIVESTOCK DISINFECTANT.)

which is a parasiticide, and the most effective disinfectant and antiseptic.

One of the big firms in the cattle business, in waiting about Chloro-Naptholeum Dip and live stock disinfectant, says:

> "After trying other preparations, which did not prove satisfactory, we used Chloro-Naptholeum Dip with entirely successful results, for curing itch, lice, etc.
>
> "We wish to raise cattle only, not parasites, and we now figure that the cattle are worth $1.00 a head more by reason of using Chloro-Naptholeum Dip."

Without asking you to pay a penny or make a promise, we will agree to send you a gallon of Chloro-Naptholeum Dip on thirty days' trial, free of all expense. If, at the end of that time, it does the work, you are to remit $1.50 to pay for it; if it doesn't do the work, write us a letter and we will tell you where to return whatever has not been used. You don't have to pay for Chloro-Naptholeum Dip unless it does the work, and we make you the judge to decide the whole thing.

It is so easy to forget, that we ask you to send your name and address now, so that we can send the trial gallon as offered.

Address,

WEST DISINFECTING CO.

9 East 59th St. New York City

AWARDED OVER 100 FIRST CLASS PRIZES CHR. HANSEN'S LABORATORY

Chr. Hansen's

DANISH

Butter Color · Cheese Color
Rennet Extract · Lactic Ferment

are acknowledge by all leading Dairy and Cheese authorities the

STANDARD OF THE WORLD

Chr. Hansen's Laboratory,

P. O. Box No. 1052 LITTLE FALLS, N. Y.

STUDENTS

Will receive a cordial welcome at

KILER'S

Headquarters for Everything Needed by the Student

Kiler's Pharmacy

1441 N. High
Cor. Eighth Ave.

Aseptic Soda Water

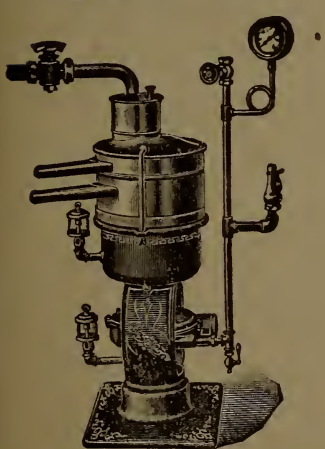
THE FARRINGTON PASTEURIZER

should be used by every milk dealer who desires to supply his customers with pure, fine flavored, long keeping milk and cream. It is compact, sanitary and built entirely of metal. Most economical to operate and produces best results. Write for our special pasteurization literature and full information.

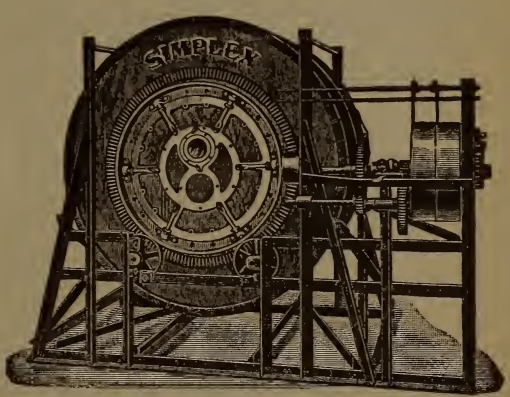
We make everything for the Creamery, Cheese Factory and Dairy. Specialties: Disbrow Churns, Wizard Agitators, 20th Century Heaters, Alpha Separators. General catalog sent free on request.

CREAMERY PACKAGE MFG. CO.
182 TO 188 E. KINZIE ST.
CHICAGO

TWO OF OUR SPECIALTIES



"SIMPLEX" Link-Blade Cream Separator.



"SIMPLEX" Combined Churn and Butter Worker.

We manufacture other specialties for use in creameries, cheese factories and dairies; "SIMPLEX" Regenerative Pasteurizer, "B. & W." Heaters; Check Pumps and Steel Vats; "FACILE" Babcock Milk Testers; Sprague Continuous Pressure Adjustable Cheese Presses, &c.

Send for our general illustrated catalogue.

D. H. BURRELL & CO., Little Falls, N. Y

A Big Difference

One Minute's Washing as compared to at least fifteen. Wouldn't you like to save at least fourteen minutes twice a day? **One minute** with a cloth and brush cleans the absolutely simple Sharples Dairy Tubular Cream Separator bowl shown in the upper picture. It takes fifteen minutes to half an hour with a cloth and something to dig out dents, grooves, corners and holes to clean other bowls—one of which is shown in lower picture.

Washed in 1 minute

Washed in 15 to 30 minutes

Count the pieces — notice the difference—and you'll understand why the one who has to do the cleaning prefers the simple Sharples Tubular.

There are other advantages just as much in favor of the Tubular. Write today for catalog V-E—it tells you all about the gain, use, and choice of a separator.

The Sharples Separator Co.

West Chester, Pa.

Toronto, Can. **Chicago, Ill.**